

Claims

1. A method for transmitting formatted text from a streaming server (100) to a mobile client (101) using an RTP protocol in a mobile communication system (102), wherein the formatted text comprises at least one text sample having an associated text sample format description, the method performed by the streaming server (100) comprising the steps of:

determining whether a text sample format description for a text sample to be transmitted has already been provided for an earlier text sample,

if so, adding the text sample to be transmitted to at least one data packet to be transmitted,

if not, adding the text sample to be transmitted and its associated text sample format description to at least one data packet to be transmitted, and

transmitting the at least one data packet to the mobile client (101).
2. The method according to claim 1, wherein the text sample format description already provided has been transmitted to the mobile client (101) in an earlier data packet
3. The method according to claim 1 or 2, wherein the text sample format description already provided has already been added to the at least one data packet when processing the earlier text sample.
4. The method according to one of claims 1 to 3, wherein the step of adding the text sample to be transmitted to at least one data packet, comprises further adding at least one sample identifier to the at least one data packet, wherein an sample identifier provides a mapping between a text sample format description and its associated text sample in the at least one data packet.
5. The method according to one of claims 1 to 4, further comprising the step of maintaining information on text sample format descriptions provided to the mobile client (101) in the transmitted data packets.
6. The method according to claim 5, wherein the maintained information comprises data on the provided text sample format descriptions, data on the at

least one data packet in which the text sample format description has been transmitted, and the at least one identifier.

7. The method according to one of claims 1 to 6, further comprising the step of determining the at least one transmitted data packet in which the text sample format description has been transmitted to the mobile client (101) based on the maintained information, if it has been determined that a text sample format description for a text sample to be transmitted has already been provided for an earlier text sample.
8. The method according to claim 7, further comprising the step of determining whether the determined at least one data packet has been acknowledged by the mobile client (101), and

if so, reusing the sample identifier used in said determined at least one data packet for mapping the text sample to be transmitted to a provided text sample format description.
9. The method according to claim 8, wherein the text sample to be transmitted and its associated text sample format description are added to the at least one data packet, if it has been determined that the determined at least one data packet has not been acknowledged by the mobile client (101).
10. The method according to claim 8 or 9, wherein the at least one data packet comprises a header and a payload section, and

wherein the header of a data packet comprises the reused identifier, if it has been determined that a text sample format description for a text sample to be transmitted has already been provided for an earlier text sample.
11. The method according to one of claims 1 to 10, wherein the at least one data packet comprises a plurality of text samples and text sample format descriptions.
12. The method according to one of claims 1 to 11, wherein the header of a data packet comprises at least one sample identifier and at least one text sample format description, if it has been determined that a text sample format description for a text sample to be transmitted has not already been provided for an earlier text sample.

13. The method according to one of claims 1 to 11, wherein the header of a data packet comprises at least one identifier, if it has been determined that a text sample format description for a text sample to be transmitted has already been provided for an earlier text sample.
14. The method according to one of claims 1 to 11, wherein the at least one data packet comprises a header and a payload section.
15. The method according to claim 14, wherein the payload section comprises at least one sample identifier and at least one text sample.
16. The method according to one of claims 5 to 15, wherein the step of determining whether a text sample format description for a text sample to be transmitted has already been provided for an earlier text sample is based on the maintained information.
17. The method according to claim 16, wherein a predetermined number of identifiers is used, and

an sample identifier is reused for the provision of a new text sample format description and the corresponding text sample to the mobile client (101), if it has been determined that a text sample format description for a text sample to be transmitted has not already been provided for an earlier text sample and if all available identifiers are used for mapping text samples to text sample format descriptions.
18. The method according to claim 17, wherein the maintained information on provided text sample format descriptions is updated upon reuse of an identifier.
19. The method according to one of claim 17 or 18, wherein the maintained information further comprises a time stamp for each sample identifier indicating the latest insertion of the sample identifier into a transmitted data packet.
20. The method according to claim 19, further comprising the step of reusing the sample identifier with the earliest time stamp for the transmission of a new text sample format description to the mobile client (101).

21. The method according to one of claims 1 to 19, wherein the at least one data packet comprises at least one text sample format description only.
22. A streaming server (100) transmitting formatted text to a mobile client (101) via a mobile communication system (102) using the RTP protocol, wherein the formatted text comprises at least one text sample having an associated text sample format description, the streaming server (100) comprising:
- packet forming means for forming at least one data packet;
- processing means for determining whether a text sample format description for a text sample to be transmitted has already been provided for an earlier text sample, and
- transmission means for transmitting the at least one data packet to the mobile client (101),
- wherein the packet forming means are adapted to add the text sample to be transmitted to at least one data packet to be transmitted, if the processing means has determined that a text sample format description for a text sample to be transmitted has already been provided for an earlier text sample, and
- wherein the packet forming means are adapted to add the text sample to be transmitted and its associated text sample format description to at least one data packet to be transmitted, if the processing means has determined that a text sample format description for a text sample to be transmitted has not already been provided for an earlier text sample.
23. The streaming server (100) according to claim 22, wherein the streaming server (100) is adapted to perform the method according to one of claims 1 to 21.
24. A method for operating a mobile client (101) in a mobile communication system (102) to receive formatted text from a streaming server (100) using the RTP protocol, wherein the formatted text comprises at least one text sample having an associated text sample format description, the method comprising the steps of:
- receiving at least one data packet from the streaming server (100), wherein the at least one data packet comprises at least one text sample,

determining whether for a respective one of said at least one text samples, the at least one data packet further comprises at least one associated text sample format description,

if so, selecting the associated text sample format description for the respective text sample comprised in the at least one data packet,

if not, selecting a text sample format description for the respective text sample from text sample format descriptions already available at the mobile client (101),

formatting the respective text sample using the selected text sample format description.

25. The method according to claim 24, wherein the at least one data packet further comprises at least one sample identifier mapping at least one text sample to its associated text sample format description.
26. The method according to claim 25, further comprising the step of maintaining information on the text sample format descriptions provided in received data packets.
27. The method according to claim 26, wherein the maintained information comprises data on the provided at least one text sample format description, and its at least one identifier.
28. The method according to one of claims 24 to 27, wherein the steps of selecting the associated text sample format description for a text sample uses the sample identifier associated to the text sample to identify [and select] the associated text sample format description from the at least one data packet or from text sample format descriptions already available at the mobile client (101).
29. The method according to one of claims 24 to 28, further comprising the step of updating said maintained information based on a new text sample format description, if the at least one data packet comprises the new text sample format description associated with an sample identifier that is already associated to another text sample format description in said maintained information.

30. The method according to one of claims 24 to 30, further comprising the step of transmitting an acknowledgement for the at least one received data packet to the streaming server (100).
31. The method according to one of claims 24 to 30, wherein a data packet received by the mobile client (101) comprises only at least one text sample format description and
wherein the method further comprises storing the at least one text sample format description received.
32. A mobile client (101) for receiving formatted text from a streaming server (100) using the RTP protocol, wherein the formatted text comprises at least one text sample having an associated text sample format description, the mobile client (101) comprising:

receiving means for receiving at least one data packet from the streaming server (100), wherein the at least one data packet comprises at least one text sample,

processing means for determining whether for a respective one of said at least one text samples, the at least one data packet further comprises at least one associated text sample format description,

text formatting means for formatting the respective text sample using the selected text sample format description,

wherein the selection means is adapted to select the associated text sample format description for the respective text sample comprised in the at least one data packet, if it is determined that for a respective one of said at least one text samples, the at least one data packet further comprises at least one associated text sample format description, and

wherein the selection means is further adapted to select a text sample format description for the respective text sample from text sample format descriptions already available at the mobile client (101), if it is determined that for a respective one of said at least one text samples, the at least one data packet does not comprises at least one associated text sample format description.
33. The mobile client (101) according to claim 32, wherein the mobile client (101) is adapted to perform the method according to one of claims 24 to 31.

- 34.** A streaming system comprising at least one streaming server (100) according to claim 22 or 23 and at least one mobile client (101) according to claim 32 or 33.